Food Science and Technology - Placement

Example Application

FOR USE BEGINNING IN 2001

PLACEMENT
Proficiency

NEBRASKA

CHAPTER #: NE0128
STATE: NE
Member ID # 0

Place Label Here

FOOD SCIENCE AND TECHNOLOGY

Name of Proficiency Award Area

1. Name: Sara Morrissey
2. Date of Birth: 05/04/1984 3. Age: 18
4. Gender: ____ Male X Female 5. Social Security #: 000-00-0000
6. Address: (street/R.R./box no.) 5824 Anywhere Dr.
   City: Anywhere State: NE Zip: 55555
7. Home Telephone number (including area code): (555) 555-1111
8. Name of Parents/Guardians 9. List Parents/Guardians Occupation Below:
   a. Father: Roger Morrissey N/A
   b. Mother: Arnita Endacott Human Resources Manager - Dept. of Motor Vehicles
10. Complete FFA Chapter Name: Anywhere
11. Name of High School: Anywhere High School
12. School Address: (street/RR./box no.) RR1 Box 93A
    School City: Anywhere State: NE School Zip: 55555
13. School Telephone Number (including area code): (555) 555-0111
14. Chapter Advisor(s): Doug Malone & Kristyn Harms
15. Year FFA Membership Began: 1998
16. Years of Agricultural Education Completed: 4
17. Years of Agricultural Education Offered (grades 7-12) in high school last attended: 4
18. Year in school at time of applying for the award: Freshman
19. If you have graduated from the high school, year graduated: 2002
20. State/National Dues paid? NO ____ YES X

We have examined this application and find that the records are true, accurate, and complete. We hereby permit for publicity purposes, the use of any information included in this application with the exception of the following:

Candidate Signature

Parent or Guardian Signature

In addition, we certify the applicant has achieved a satisfactory record of scholastic achievement.

Chapter Advisor Signature

Superintendent or Principal Signature
(indicate which)

The information contained in this application has been substantiated by an actual visit to the site of the applicant's supervised agricultural experience program.

Employer Signature (if applicable)

State Supervisor, Ag Ed, Signature

NOTICE: This application will not be returned by the National FFA Organization. Please make a copy for your records.

I. Performance Review

A. Getting Started in this activity: (15)

1. Briefly describe your SAE as it is related to this proficiency area. Describe how you started in this proficiency area. What interested and motivated you to begin?

I entered the Anywhere FFA program not knowing what to expect. While I have shown horses for years, I have lived in town and not been involved in production agriculture. I found however, that agriculture is much more than plants and animals. Our chapter was in the beginning stages of a food science program and I felt I should pursue it more. My interest in science led me to a professor in the food science department at the University of Nebraska - Lincoln. I was looking for an SAE that would challenge my intelligence and leave me striving to become a better person, student and FFA member. After conversations with her, I rather "fell" into a job working in the food microbiology lab at UNL. I discovered that food science & technology is a perfect match for me. There is no summit to be reached in research, so I would constantly be striving to improve and be the best I can be. Over time, what began as a small experiential job turned into a summer job, and has developed into working during my spare time in between my college classes. It began simply as motivation for an SAE project, but has turned into motivation for a fulfilling and satisfying career in food science & technology.

2. When you were planning your supervised agricultural experience in this proficiency area, what 2 or 3 goals and objectives did you plan to achieve at this point in your development?

When I began my SAE I knew I was going to use it to accomplish goals that I had.

First, I wanted to receive my state degree. I was aware that receiving my state degree would require me to spend a great deal of time working with food science. I wanted to be sure that I found a project that was right for me. I had an interest in food science, but I knew I couldn't go by interest alone. I needed to spend time working and getting to know more about food science, the career opportunities, what it entails as well as if it was a strength I possessed.

Second, I hoped that my experiences from my SAE would lead me to a career in food science, or expose me to other careers that may be of interest to me.

Third, I wanted to apply the knowledge of my working experience toward FFA contests. By working in the area of food science I would be able to apply my knowledge toward contests such as the Agri-Science Fair and Food Science & Technology Career Development Event. Not only would these contests give me the opportunity to use the knowledge and skills that I had gained from my SAE experience, but they also offer scholarships and expose me to many people in the field of food science. I viewed these contests as extensions of my SAE project that would give me another avenue to explore food science & technology to determine if it is the career for me.

B. Progress:

1. Describe any special advantages or disadvantages that had a major impact on your achievements in your supervised agricultural experience program.

The biggest advantage I have had with my SAE has been living so close to a major university and being able to take advantage of the expertise of the professors and their facilities and supplies. I am able to conduct experiments on a very precise and scientific level, which is a major advantage when it comes to taking experiments and my interest in food science to the next level. I have been lucky to have a great group of co-workers, supervisors and bosses. They have always been understanding and flexible with my hours and me. Not only does this make my job less stressful, but it also makes for a more enjoyable work experience. Being older than sixteen has also been an advantage in past years. Before I was sixteen the university was unable to hire me, therefore all of my hours were unpaid. Not only that, but I was not old enough to drive to work, making my working hours limited as well. The one disadvantage I encountered while in high school was the distance from my school to the university. This made working after school difficult due to the fact that the university was forty-five minutes from my high school. By the time I got to work, it was beginning to get late in the evening, allowing for only an hour or two of work. I realize that limitations on the number of hours I was able to work while in high school was a disadvantage, but I am thankful to have had the opportunity and experience as a high school student and continue to have as a college student.

B. Progress (continued)

2. Briefly describe your placement in this proficiency area. (Include a description of the business/ farm, working conditions, size, number of employees, type of facilities, equipment available, etc.)

I was first employed at the University of Nebraska - Lincoln in the Food Microbiology lab of the Food Science & Technology Department. When the director of that lab left, I became employed at the University's Poultry Products lab. However, the director of that lab also left, so I am currently employed at the Food Microbiology lab and Food Processing Center lab. However, as I have rotated through these labs, the working environments have almost been identical. The hours and personnel are flexible. The number of employees present will vary. At times I am the only one present in the lab or there can be upwards of five people, depending on graduate and undergraduate students' schedules. The lab is a typical setting with scientific tools and equipment spread throughout the room. There is equipment such as incubators to grow bacteria, refrigerators, Bunsen burners to sterilize and heat, hot/stir plates to stir/boil water and media, a computer for research and writing presentations, as well as all types of glassware, including flasks, beakers and test tubes.

3. How has your position description and/or responsibilities changed during the time of your placement?

When my SAE first began, I focused on learning the basic skills of the food science and technology field (autoclaving, washing dishes, making media). The time I spent working in the lab was minimal as I learned the skills needed. Once I began working on a more regular basis, I began to take part in more lengthy experiments, including a project of my own, as well as take care of requests from graduate students, professors and fellow lab technicians. Taking part in the upkeep of the lab is also a common task which became a part of my job when I began working on a regular basis. As I became more experienced, I was entrusted with more difficult responsibilities. For example, when I began I may have been in charge of preparation for an experiment, however, at this point I might be responsible for completing part of an experiment or a complete experiment myself. As my knowledge and skill grew, so did my responsibilities.

C. Analysis/Evaluation of Program

1. Describe your level of achievement and progress towards your goals (such as skills, scope, etc.) in this award area as related to the goals and objectives described on page 2, question 2.

Last year, after working on my SAE for three years, I successfully reached the specifications to receive my state degree; therefore, I accomplished my first goal of receiving my state degree. Using the knowledge I gained from working in this proficiency area, I entered the National Agri-Science fair my sophomore and junior years. As a sophomore I received second place with my project which was entitled "Safety of Ground Beef Thawed at Room Temperature." My junior year, I received first place in the National Agri-Science fair with my project, "Antibiotic Resistant Bacteria in Poultry." This project also qualified me as a finalist for National Agri-Science Student of the Year, which I competed for at National Convention in 2002. Also, I have taken part in the National Food Science and Technology Career Development Event. In 2001, my team and I received third place in the national competition. After spending over 1,000 hours working in this field of food science & technology I am majoring in food science & technology and plan to become a food microbiologist.

2. Describe the personal goals, educational goals, and career goals you would like to achieve in the next ten years.

Throughout the next ten years I plan to focus on receiving a Ph.D. in food science & technology, specifically food microbiology. I am very interested in food safety and food microbiology, so a career in research would be ideal for me. Antibiotic resistance is one area that I am very interested in studying and researching further. I am currently a freshman food science & technology major at the University of Nebraska - Lincoln, where I plan to receive my undergraduate degree. From there, I will be looking to receive my Masters and Ph.D. from another major university. By becoming a food microbiologist I feel that I will be able to make a significant contribution to Science, as well as humanity, while always striving to be the very best that I can be. It is very important to me that I utilize the talents and skills that God has blessed me with.
Besides my career and educational goals, my ultimate goal in life is to be happy, successful, and making a positive contribution to my spouse, family, community and those around me.

II. Scope, Income and Expense Summary for : FOOD SCIENCE AND TECHNOLOGY

Placement and Research Experimentation Type Supervised Agricultural Experience Program (20)

Year	Major Job Title / Type of Work and/or Activities completed	Total Hours Worked Unpaid (A)	Paid (B)	Total (C)*	Gross Earnings (D)	Total Expenditures (E)	Net Earnings (F)**
Mo/Day/Yr	Experiential Food Scientist	113.0		113.0			$0
01/01/1999 to				0.0			$0
Dec. 31				0.0			$0
1999				0.0			$0
(Year)				0.0			$0
				0.0			$0
Totals for Year 1		113.0	0.0	113.0	$0	$0	$0
	Experiential Food Scientist	31.0		31.0			$0
Jan 1, to				0.0			$0
Dec. 31	Food Microbiology Lab Employee		232.0	232.0	$1,518		$1,518
2000				0.0			$0
(Year)				0.0			$0
				0.0			$0
Totals for Year 2		31.0	232.0	263.0	$1,518	$0	$1,518
	Food Microbiology Lab Employee		308.0	308.0	$2,154		$2,154
Jan 1, to				0.0			$0
Dec. 31	Poultry Products Lab Employee		44.0	44.0	$266		$266
2001				0.0			$0
(Year)				0.0			$0
				0.0			$0
Totals for Year 3		0.0	352.0	352.0	$2,420	$0	$2,420
	Poultry Products Lab Employee		230.0	230.0	$1,491		$1,491
Jan 1, to				0.0			$0
Dec. 31	Food Microbiology Lab & Food		120.0	120.0	$764		$764
2002	Processing Center Lab Employee			0.0			$0
(Year)				0.0			$0
				0.0			$0
Totals for Year 4		0.0	350.0	350.0	$2,255	$0	$2,255
				0.0			$0
Jan 1, to				0.0			$0
Dec. 31				0.0			$0
2003				0.0			$0
(Year)				0.0			$0
				0.0			$0
Totals for Year 5		0.0	0.0	0.0	$0	$0	$0
				0.0			$0
Jan 1, to				0.0			$0
Dec. 31				0.0			$0
2004				0.0			$0
(Year)				0.0			$0
				0.0			$0
Totals for Year 6		0.0	0.0	0.0	$0	$0	$0
GRAND TOTALS Year (1+2+3+4+5+6)		144	934	1,078	$6,193	$0	$6,193

* Columns (A) plus (B) = (C) ** Columns (D) minus (E) = (F)

III. Balance Sheet

ASSETS & INVESTMENTS	Beginning Value on Date Entered Ag (A)	Ending Value at End of Last Completed Record Year (B)
1. Current/Operating Assets		
a. Cash on-hand, checking and savings	$750	$9,000
b. Cash value - bonds, stocks, life insurance		
c. Notes & accounts receivable		
d. Total Current/Operating Inventory (all other current assets)		
2. Total Current/Operating Assets (1a+1b+1c+1d)	$750	$9,000
3. Non-Current/Capital Assets	$250	$4,500
4. Total Assets (2+3)	$1,000	$13,500

LIABILITIES		
5. Current/Operating Liabilities (notes payable)		
6. Non-Current/Capital Liabilities		
7. Total Liabilities (5+6)	$0	$0

8. NET WORTH (4 minus 7)	$1,000	$13,500

SUMMARY OF SOURCE AND USE OF FUNDS		
9. Earnings from this proficiency area	XXXXXXXXXXXXX	$6,193
10. Other SAE earning NOT from this area	XXXXXXXXXXXXX	
11. Earnings from non-SAE activities	XXXXXXXXXXXXX	$743
12. Income other than earnings	XXXXXXXXXXXXX	$11,576
13. Total Earnings (9+10+11+12)	XXXXXXXXXXXXX	$18,512
14. Use of Funds	XXXXXXXXXXXXX	
a. Total educational expenses	XXXXXXXXXXXXX	$4,715
b. Total other personal expenses	XXXXXXXXXXXXX	$3,250
15. Total use of funds (14a+14b)	XXXXXXXXXXXXX	$7,965

IV. Skills and Activities

A. Skills (25)

List your top six placement skills and give a brief description of each one and its contribution to the success of your supervised agricultural experience program.

1.Skill Number One.

Year	Skill	Where Attained	Student Hours
99-02	Scientific Method	University of Nebraska	300

Description of Skill:

The scientific method is a procedure that is commonly followed when conducting scientific experiments. It consists of developing a problem, forming a hypothesis, conducting an experiment to test the hypothesis, collecting data, replicating it to assure accuracy and developing a conclusion based on the results of the experiment. The scientific method is used in every field of science where experimentation occurs. It provides the correct order of obtaining the most accurate results during the experimentation process. Having a great deal of experience with the scientific method will be very beneficial to me in my future endeavors as a food microbiologist.

2. Skill Number Two.

Year	Skill	Where Attained	Student Hours
99-02	Safety Skills	University of Nebraska	300

Description of Skill:

While working in the laboratory, I must take every precaution to assure my safety with the equipment and pathogens. Knowing how to properly run the equipment keeps me safe, as well as those around me. Infecting myself with the pathogens in the laboratory is a very real threat. To avoid this, I must be alert and aware at all times of how I am handling the pathogens, where I am handling the pathogens, and what could possibly go wrong that would cause me, or someone else, to become infected. Practicing proper safety skills has kept me safe, ensuring that my experiences are nothing but positive.

3. Skill Number Three.

Year	Skill	Where Attained	Student Hours
99-02	Project Management	University of Nebraska	50

Description of Skill:

Project planning and management is crucial to the success of a scientific experiment. Utilizing this skill was essential in completing each step of my projects by a specific time and date as well as to the correct degree of accuracy. Because of my lengthy project, I was unable to complete it in a short period of time or in a random fashion. Specific parts had to be completed days in advance. In order to ensure that every component would be ready, meticulous planning was essential. The slightest change in the schedule of an experiment could cause days of planning, preparation and experimentation to be ruined. Therefore, my ability to manage my projects was especially beneficial.

A. Skills (continued) (25)

List your top six placement skills and give a brief description of each one and its contribution to the success of your supervised agricultural experience program.

4.Skill Number Four.

Year	Skill	Where Attained	Student Hours
99-02	Following Experimental Procedure	University of Nebraska	250

Description of Skill:

When working in the lab on experiments, following experimental procedure is crucial. This skill came into play when doing everything from pipetting media, to autoclaving biohazardous material. Getting off of the protocol or standard operating procedure by even a milliliter could make a significant difference in the results of the experiment and cause days worth of preparation and experimentation to be wasted. Dr. Brashears, Dianne Peters and Jayne Stratton have always provided very specific procedures for developing experiments. It was my job to follow those directions before, during and after the experimentation process, accurately and in a timely fashion.

5. Skill Number Five.

Year	Skill	Where Attained	Student Hours
99-02	Presentation and Communication Skills	University of Nebraska	10

Description of Skill:

Upon completion of my projects for the National Agri-Science Fair, I was required to present it at the National FFA Convention to a panel of three judges. This involved both making a visual poster and writing a detailed research paper, and taking part in an oral interview with a panel of judges. During this interview I explained my project in detail, going through the steps I followed to complete my experiment. Also, one of my projects qualified me as a finalist for National Agri-Science Student of the year. Again, this involved making a display, writing a detailed research paper and presenting a fifteen-minute presentation, which was followed by questions from the judges. These interviews, as well as others of similar nature, required the development of my communication skills in order to explain my project and show the importance of such research.

6. Skill Number Six.

Year	Skill	Where Attained	Student Hours
99-02	Research & Writing Skills	University of Nebraska	20

Description of Skill:

Before setting up and conducting an experiment, I must first research the topic to obtain background information of previous experiments and, therefore, gain knowledge of the topic. Doing this helps me to set up the experiment in the most accurate form, as well as form a hypothesis to base my experimentation upon. This research is used throughout my experiment, as well as in writing a concluding research paper. These have not only contributed to my work skills, but also in my projects for school. This is a skill that will be beneficial to me throughout my entire life, particularly while I am in school. However, as a research professor I will continue to utilize this skill to write grants, proposals, research papers and articles.

B. Activities (25)

List your top three placement activities and give a brief description of each one and its contribution to to the success of your supervised agricultural experience program.

1.Activity Number One.

Year	Activity	Where Attained	Student Hours
99-02	Making Media	University of Nebraska	200

Description of Activity:

Making media is one of the most common tasks I complete at work. Media is the growing solution for bacteria. It provides the essential nutrients for the pathogens to grow and reproduce. Most media is in a powdered form which requires distilled water to be added to it. The amount of water added is based on how much media is being made as well as what the label on the media indicates. The different types of growing media are numerous, therefore, a knowledge of what media to use when growing and isolating a particular bacterium, as well as how to make the media, has been very beneficial to me throughout my working and research experience.

2. Activity Number Two.

Year	Activity	Where Attained	Student Hours
99-02	Performing Microbiological Tests on Samples From Clients	University of Nebraska	75

Description of Activity:

The Food Processing Center Food Microbiology Laboratory, where I am a student worker, works very closely with both large and small food processors to assure that their product is safe from contamination. As a student worker, it is my responsibility to help perform the tests that these companies send their products for. This consists of weighing out samples, stomaching the samples, pipetting and plating the samples on petri-dishes and/or petri-film, enriching samples for bacterial growth overnight and counting the plates to determine the amount of bacterial growth. Having the opportunity to participate in doing microbiological testing for food processing companies has been a very exciting and valuable experience for me. I intend to become a food microbiologist and perform research for my career; therefore, having this experience now is very advantageous.

3. Activity Number Three.

Year	Activity	Where Attained	Student Hours
99-02	Autoclaving	University of Nebraska	7

Description of Activity:

While this activity takes little time, it is an activity I complete on a daily basis. Autoclaving is the process of sterilizing media, equipment and biohazardous material in an autoclave. The biohazardous material is wrapped in special autoclave bags that can withstand the extreme heat of the autoclaving process. There are several settings in which to sterilize the materials, depending on what is being sterilized. Typically, the autoclave sterilizes media and supplies at 121 degrees Celsius and 15 pounds per square inch (psi). Knowing how to use the autoclave properly assures the sterilization and cleanliness of all materials being used in experiments, as well as the safety of others, and myself, who might come into contact with any biohazardous materials.

V. Supporting Documentation

A. Resume' (6)

Attach a one or two page resume' that includes the following sections:

a. Name/address/phone number/FFA chapter
b. Career objective
c. Education
d. FFA leadership activities /awards
e. School leadership activities/awards
f. Community leadership activities/awards
g. Professional associations
h. Other accomplishments
i. References

B. Employer or Instructor's Statement (2)

The applicant's most recent employer or agriculture instructor should evaluate and submit a maximum of one page report of the progress the student has made in developing the skills and competencies necessary for success in:

FOOD SCIENCE AND TECHNOLOGY

C. Supporting Pictures (10)

Submit a maximum of six photographs, no larger than 3 1/2" x 5" or 4"x 6", with a brief caption (50 words or less) for each. (The National FFA Organization reserves the right to retain and use the photographs for publicity purposes.)

D. Personal Page (2)

Attach one page of additional information, of your choice, supporting your application for this area. (i.e.. Newspaper clippings, additional statements from employer, student work, etc.)